

# **PRACTICE EXERCISES**

**Solve. Graph the solution set if it is not the empty set.**

1.  $2x > -10$  and  $9x < 18$
2.  $3x > -12$  and  $8x < 16$
3.  $6x > -24$  and  $9x < 54$
4.  $7x > -35$  and  $5x < 30$
5.  $-6 < 2x - 4 < 12$
6.  $11 < 3x + 2 < 20$
7.  $17 > 4x - 3 > -15$
8.  $36 > 5x - 1 > -19$
9.  $4y < 16$  or  $12y > 144$
10.  $3x > 2$  or  $9x < 54$
11.  $8x > -32$  or  $6x < 48$
12.  $9x < -27$  or  $4x > 36$
13.  $5y - 4 > 16$  or  $3y + 2 < 17$
14.  $6y + 3 < 15$  or  $4y - 2 > 18$
15.  $6x \leq 18$  or  $-5x \leq 15$
16.  $4x \leq 12$  or  $-7x \leq 21$
17.  $8x < -64$  and  $5x > 25$
18.  $15x > 30$  and  $18x < -36$
19.  $3 + 5z > 2z - 15$  and  $3(1 - 3z) + 6 < 18$
20.  $6 + 4z > 2z - 8$  and  $5(1 - 2z) + 4 < 21$
21.  $4w + 7 > 8 + 3w$  or  $6(2w + 3) < 11w + 15$
22.  $7(2w + 9) - 13w > 73$  or  $16(w - 2) < 15(w - 2)$
23.  $6(t - 4) - 5(t - 4) > 4$  and  $9(2t - 1) - 7(2t - 3) < 32$
24.  $4 - 2w \geq 18$  or  $9 - 2w < 17$
25.  $6 - 3w \geq 15$  or  $7 - 4w < 19$
26.  $3x + 4x - 7 < 2x + 18$  and  $5x > 25$
27.  $8 - 2z + 8z > 12$  and  $3z < 18$
28.  $3(2w - 7) + 7 \leq 10$  or  $7 + w > -3$
29.  $2(3w - 5) + 5 \leq 7$  or  $8 + w > -4$
30.  $5z - 4 + 3z > 6z - 24$  and  $14z - 3 < 25$
31.  $6z - 5 + 2z > 4z - 21$  and  $13z - 3 < 23$
32.  $2x - 3 > 9 - 4x$  and  $6x - (3 - 3x) < 24$
33.  $4x - 5 > 16 - 3x$  and  $7x - (5 - 2x) < 31$
34.  $0.3 - 0.7z > 0.4z - 3.0$  and  $3(z - 2) - 6 \leq 15$
35.  $0.5 - 0.8z > 0.3z - 5.0$  and  $4(z - 3) - 12 \leq 8$

**Solve for  $t$ ,  $x$ ,  $w$ ,  $y$ , or  $z$ .**

36.  $\frac{y}{5} - 1 > 6$  or  $\frac{y}{2} + 4 < 8$
37.  $\frac{y}{6} + 1 > 0$  or  $\frac{y}{3} + 5 < 9$